

THE CLAIMS

The claims of the application, as amended, are:

1. (Currently Amended) Apparatus for conditioning air and fuel supplied to a combustor, ~~characterised by~~ comprising:

means (5) for electrostatically charging air supplied to a combustor, at a first polarity, the means extending into a first duct (2, 3, 4) through which, in use, air flows to the combustor;

means (12) for electrostatically charging fuel supplied to such combustor, at opposite polarity to said first polarity, the means extending into a second duct (9, 10, 11) through which, in use, fuel flows to the combustor; and

means (15, 19, 20) for preheating such fuel; and
an earthed electrode (7, 14) within a duct selected from the
first duct and the second duct.

2. (Currently Amended) Apparatus according to claim 1, ~~characterised by~~
~~being~~ wherein the apparatus is adapted to charge air at negative polarity and to charge fuel at positive polarity.

3. (Currently Amended) Apparatus according to claim 1 ~~or claim 2,~~
~~characterised in that,~~ wherein said means for electrostatically charging air comprises

one or more pointed electrodes (5) adapted to be connected to electronic power supply means and extending into a the first duct (2, 3, 4) ~~through which, in use, air flows to the combustor.~~

4. (Currently Amended) Apparatus according to claim 3, ~~characterised by further comprising an~~ wherein the earthed electrode (7) within ~~such~~ the first duct (2, 3, 4) is upstream of said pointed electrode(s) (5) in the sense of flow of air through ~~such~~ the first duct.

5. (Currently Amended) Apparatus according to ~~any preceding claim, characterised in that~~ claim 1, wherein said means for electrostatically charging fuel comprises one or more pointed electrodes (12) adapted to be connected to electric power supply means and extending into a the second duct (9, 10, 11) ~~through which, in use, fuel flows to the combustor.~~

6. (Currently Amended) Apparatus according to claim 5, ~~characterised by further comprising an~~ wherein the earthed electrode (14) within ~~such~~ the second duct (9, 10, 11) is upstream of said pointed electrode(s) (12) in the sense of flow of fuel through ~~such~~ the second duct.

7. (Currently Amended) Apparatus according to ~~any preceding claim,~~
~~characterised in that~~ claim 1, wherein said preheating means (15, 19, 20) are located
upstream of said means (12) for electrostatically charging fuel in the sense of flow of
fuel to the combustor.

8. (Currently Amended) Apparatus according to ~~any preceding claim,~~
~~characterised in that~~ claim 1, wherein said preheating means comprise means (15, 19)
for preheating such fuel by heat exchange with fluid heated by the combustor.

9. (Currently Amended) Apparatus according to ~~any preceding claim~~
~~characterised in that~~ claim 1, wherein said preheating means comprise electrically
powered heating means (20).

10. (Currently Amended) Apparatus according to claim 9, ~~characterised in that~~
wherein said electrically powered heating means comprise an element (20) disposed
within the duct (9, 10, 11) through which, in use, fuel flows to the combustor which
serves also as said earthed electrode (14).

11. (Currently Amended) Apparatus according to claim 8, ~~9 or 10,~~
~~characterised by further comprising~~ wherein control means (21, 22) is provided
adapted to operate said electrically powered heating means (20) when said fluid

heat exchange means (15, 19) are ineffective to preheat such fuel to a specified temperature.

12. (Currently Amended) A combustor ~~characterised by being~~ equipped with apparatus according to ~~any preceding~~ claim 1 for conditioning air and fuel supplied to the same.

13. (Currently Amended) A combustor according to claim 13, ~~characterised by being~~ 12 in the form of an internal combustion engine.

14. (Currently Amended) A method of conditioning air and fuel supplied to a combustor, ~~characterised by~~ comprising the steps of:

electrostatically charging such air at a first polarity within a first duct (2, 3, 4) through which, in use, air flows to the combustor;

electrostatically charging such fuel at opposite polarity to said first polarity within a second duct (9, 10, 11) through which, in use, fuel flows to the combustor;
and

providing an earthed electrode (7, 14) within a duct selected from the first duct and the second duct; and

preheating such fuel.

15. (Canceled)